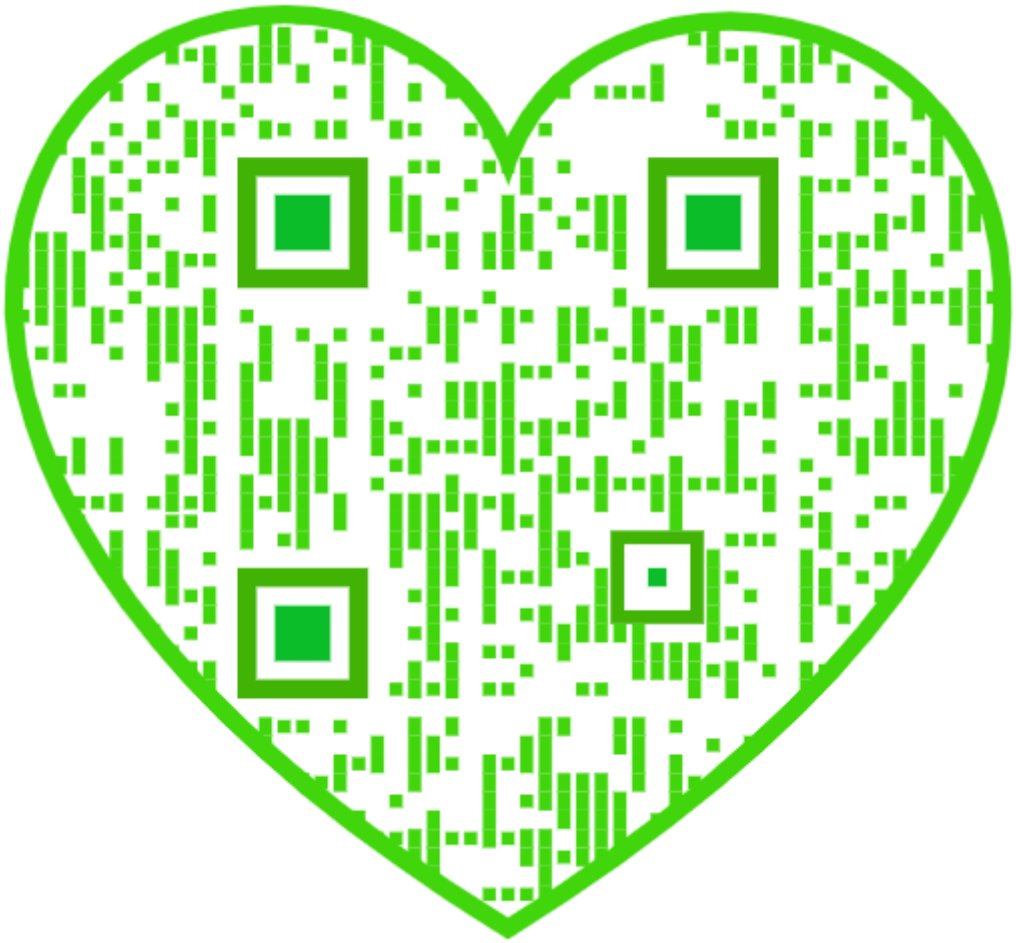


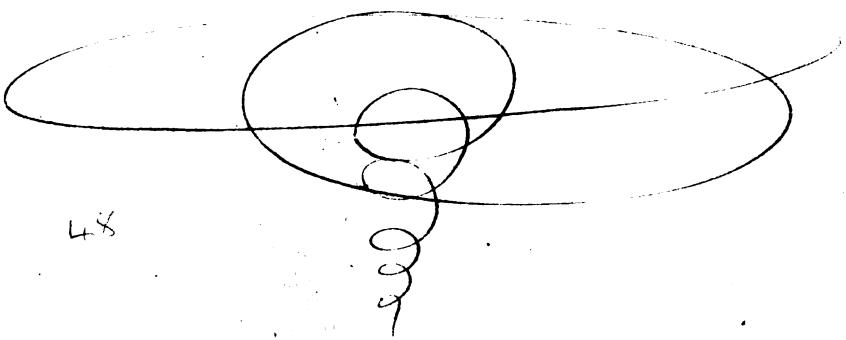
Andrew Marshall

N° 28

Sandhill

Newcastle upon Tyne

1st Nov 1834



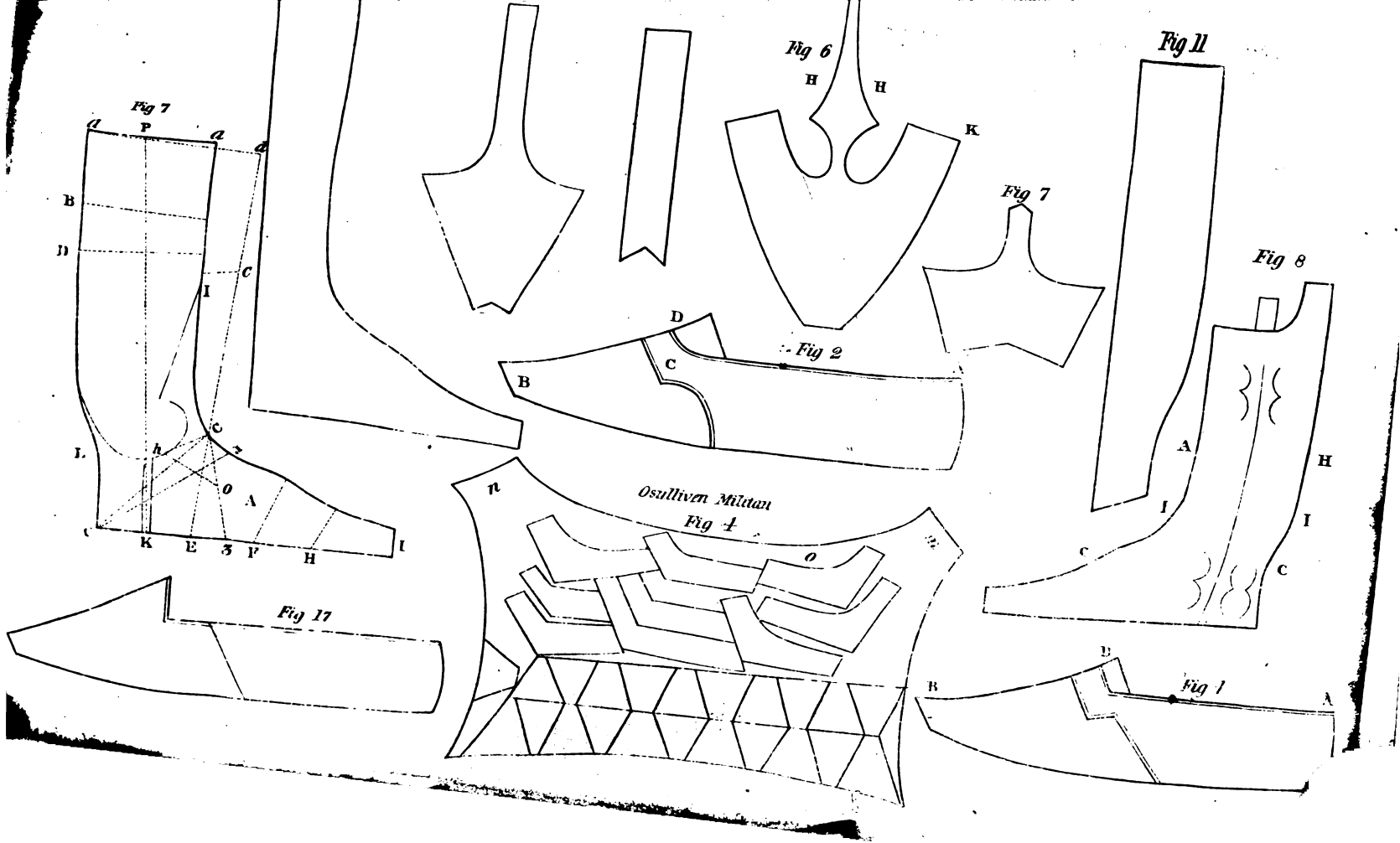


Fig 7
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THE

ART AND MYSTERY

OF THE

GENTLE CRAFT,

BEING

An Essay

ON THE

PRACTICE AND PRINCIPLES

OF

BOOT AND SHOE MAKING,

AND CUTTING.

BY JOHN O'SULLIVAN, PRIZE-MAN.

London:

SOLD BY MR. MASON, NEAR ST. CLEMENT'S CHURCH, PICKET STREET,

And by the Author, Price 3s.

1834.

THE AUTHOR,

Of this Narrative, having brought it before some of the most respectable Boot and Shoe Makers in London; who having approved of it, likewise recommend it to the Boot and Shoe Makers at large, in the United Kingdoms.

THE NAMES ARE AS FOLLOWS—

Mr. G. Hobay, corner of St. James'-street, Bootmakers to the Royal Family.

Messrs. Hill & Co. Bootmakers to his Majesty.

Mr. Furrs, Fleet-street.

Mr. Miller, Skinner-street.

Mr. Stunt, Strand.

Mr. Clerk, Ludgate Hill.

Messrs. Somes and Warren, Ludgate Hill.

Mr. Boddell, Chelsea.

Mr. Bamford, Strand.

Mr. Jessop, Minories.

Mr. Cox, Strand.

Mr. Gutteridge, Strand.

Mr. Riddley, St. Paul's.

Mr. Badley, Wellington-street.

A great many more which may not be necessary to mention.

BODLEIAN
11 NOV. 1931
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PREFACE.

I HAVE endeavoured to arrange this Essay in as clear a manner as the nature of the subject would admit, and the novelty of it allow. It is, I believe the first treatise ever attempted on the subject:—I had, therefore, no path or guide to direct me, but to follow the best of my judgment, from my own experience, in forming an entirely new work.

It is easy to conceive the difficulty that attends the formation of a new road or path over a boundless desart, or frequented forest: many obstacles may present themselves, and they must be removed with great labour and diligence before the road can be rendered clear and even for the end designed.

The trade, being a handicraft, depends in a great measure on the fancy of the times, which it is impossible to command by any established rules.

I have adhered to the fixed laws of the trade, which I call its elements, or ground work.

I think that I have omitted nothing which is *really* necessary in the theory, as an elementary work; and any attempt to extend the subject beyond that would be useless; and would only tend to fill up more pages, and incur additional expence, without any real benefit.

It is well known to the trade, that it is only by great attention and long experience that a proper degree of knowledge in it is obtained, not less than 10 or 12 years being requisite to form a complete workman: and then he will have enough to learn, although nothing more than in what he will find himself defective.

AN ESSAY,

&c.

The Method of Cutting a Man's Boot.

IT is rather singular that the generality of cutters are in the constant habit of cutting boots at random, that is, without a regular and certain rule; though without some rules they seldom attempt to cut shoes; but as boots are of more consequence in the trade than shoes, they ought to have certain and fixed laws.

In the course of my practice I have seen boots from a great many parts of these kingdoms, and from many parts of the continent of Europe; but no two pairs of them alike.

The leading shops in the Metropolis are not regular in their mode of cutting boots; for from one and the same shop you will see various modes of cutting; which is a convincing proof that there is no regular system or order.

Here I speak from what I have seen; I do not pretend to say that none have taken into consideration the real form and movements of the foot and leg, and have applied a corresponding mode of cutting to answer the end; but, as I have said before, I have seen none.

In the first place, it will be proper to shew the method how to take the measure of the foot and leg. We will suppose for a jockey, or top boot.

Take the length of the foot as in fig. 5, from C to I, with the size-stick, same as directed in the shoe; then with a graduated piece of parchment* take the width round the foot at E, at F, and H; then the width of the heel at *c c*, then the pitch or the first rise of the calf at D, and the width round the leg at D, likewise the height of the middle of the calf at B and its width, then the length at *a a* and the width round the leg at *a*. If Wellington or Austrian half boots, you must take the length to B, or a little above, and width at that height.

* By making use of a graduated strip of parchment, you can enter the dimensions on the order book; and if there should be no alteration in the person's foot and leg, it will answer at any future period when an order is given, without seeing the person. But a slip of paper is liable to many unforeseen accidents.

The length of a half boot should be up full to the middle of the calf, or above if the leg be small, otherwise it will be very liable to sit loose and open from the leg; because the leg of the boot must be in every part as wide as the heel, otherwise it will be but with great difficulty got on, and there are but few men out of the number that you may measure, whose legs below the middle of the calf are fuller than the heel: hence the reason of the above caution.

In the present mode of wearing boots, there is no necessity to take the first rise of the calf, but when the close boot was worn it was found necessary. For I knew a gentleman the first rise of the calf of whose leg was within three or four inches of the ancle and fuller than his heel; and as close fitting boots were then the wear, and cordavan boot legs which were taken in very much, and were made as elastic as possible; therefore without attention paid to the first swell of the calf, in cutting his boots, he would always feel too much pressure on the lower part of the calf. Here I caution the tradesman, in case closefitting boots should come in wear.

Now choose out a last that will answer to the dimensions of the foot. A block last is preferable for a boot, because you can form it to the size of the foot and the width of the heel, without being subject to the men, for their care to keep the instab leathers in their proper place.

In the next place take the boot vamp patterns, and fit one to the last, and then cut out the vamps from a skin of the substance the work requires, and in the same order as directed for shoes; fold and crease the vamps with the black side out, and cut out the opening as in fig. 6, from *h* to *c*, of the same dimensions as that in fig. 7, from *h* to *c*, and something deeper than from *h* to K; and longer than from *e* to *i*, of fig. 7, that you may have room to cut the vamp smooth and even, after it is cramped.

Then wet the vamps, that is, that part that is to be cramped, and with a leather strap as that of a thin piece of welt, and fix one end of it by a tack at the right end of your cutting board, and slip the other end of it between the folded vamp, and let it come to lie close against the back of the vamp, with the back part of the vamp towards you, and the end of the tongue towards your left hand.

Then at a certain distance from you on the cutting board, fasten the vamp to the cutting-board as at 1 and 2, and then with the left hand strain the tongue of the vamp towards you by the leather strap, and at the same time hammer the opening of the vamp and tongue moderately with the broad end of the hammer, that the cramp may be retained.

After you have cramped both tongues, and laid them smooth with the hammer, take the boot legs and strain out the draft well at the lower part, that there may be as little loose leather as possible about the ancles; and fold them in the middle with the black side outwards.

Though you have these things prepared, I would have you previous to the cutting of them, to cut the form of the boot in pattern paper.

In fig. 7, is the form of the boot cut to the above dimensions. The side of the vamp *a*, to be exactly the width of one half of the vamp, and the end of *h* K to be under the ancle, and the lower part at K to be within the heel, as the boot will be firmer than when the seam is without, for it keeps the closing seam firm from plying or working.

The depth *h* K to be from 2 to 2 inches and a quarter, and to come just under the ancle: and from *h* to *c*, at the instab, to rise in a gradual curve or sweep, so that *c* may be at the bend of the foot at the instab; for if it be above that the vamp will press too much on the flexor that comes from the leg to the instab to assist in moving the foot, and will cause the wearer to feel the boot rather uneasy. Therefore the width of the tongue of the vamp at that place should not be much wider than from seven-eights of an inch to that of an inch, that the foot may have a free and easy movement. Likewise the vamp at that place will sit smoother without wrinkles, much better than when it is very wide. Again, if the quarter of the boot should be lengthened to *x*, the sweep or curve of the tongue of the vamp *h x* will be too much below the ancle and the bend of the instab, and there will be a great deal too much loose leather about the ancles, from the leg and vamp of the boot; and besides having a very awkward and clumsy appearance, it will always sit loose and open from the leg and instab.

Therefore be careful to pay attention to the figure and the

above directions, that you may avoid these two extremes, and especially the latter, as it is very awkward and clumsy, and too generally found in boot-cutting.

Let the tongue of the vamp be about 3 inches and a half from *c* to the point at *i*; * and from *c*, to the middle to run gradually wider until it becomes about an inch and a half wide, and from thence to the end at *i*, to taper gradually to a point.

In the next place cut the counter or back strap *b*, and let it join the vamp at *h* K, and to run off a gradual sweep towards the heel, and the depth in the middle between *h* and L to be about an eighth of ah inch lower than it is at *h*; † and the width at the back strap at L to be about an inch; and the depth at L C to be in general about two inches and a half, which will be nearly at the bend of the heel behind; but from there up the leg let it be about three eighths of an inch.

When taking the width of the heel, *e c*, you must allow a certain space of the leg below *c*, at the heel, for to come under the sewing, and likewise the counter *b*, must be left wider than the leg, about a quarter of an inch because of the substance of the leg and middle piece.

Now let the vamp and counter, or back strap meet at *h* K, and put the last on them, and see that they have the same relation to the last as the vamp and quarter of the shoe, as directed under that article; and if not, you are to cut a little off, at both vamp and counter *h*, or at K, till they do correspond.

Then take half a sheet of the same kind of paper and let one side of it be quite straight, to represent the front of the boot leg, and place it under the vamp and counter, in the direction 3. *c. i. a.* for the upper part *a*, to be about 3 or 4 inches from the perpendicular E, *c. d;* because when a man stands upright, the upper part of the leg just under the knee, as at *a*, is between 2 and 3 inches from a perpendicular, as *a* is from *d*; that is, from the perpendicular E. *c. d.*

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* That height of the tongue will keep the boot leg smooth in front, and cause it to lie close to the person's leg.

† For it will give more ease and freedom to to the person's heel to go in and come out of the foot of the boot, but if higher, it will have the contrary effect; both in feel and in sight.

Three very material things arise from not placing the boot leg in the position of the man's leg: First, if the boot leg be near a perpendicular, it will set off in front from the man's leg; secondly, it will be in two great folds behind when the person stands erect; and thirdly, the person will have more trouble to get on such a boot.—And likewise if the length of the quarter of the boot L. *c.* be cut as above directed, so as that the wide part of the vamp does not press on the flexor of the foot, and the boot leg to be in a perpendicular position, or nearly so; then the tongue of the boot, and the adjoining part of the boot leg, will set off from the upper part of the instab, and the leg in a loose and clumsy form;—Therefore it will be better for the boot to exceed the position of the leg than otherwise; for then it will sit closer to a man's leg in front, and without any folds behind when the boot is drawn up, and will go on with more ease.

Now you have the leg pattern in its proper position, 3. *c. a.* cut it even with the vamp and counter at the bottom from 3 to *c*, and let the curve of the tongue at *c* meet the edge of the leg pattern, and let the upper point of the tongue meet the edge of the same at *i*, and mark the leg pattern from the point *i* along the curve of the tongue to *h*; and prick two holes with the point of the awl through the leg pattern, one at *h*, and the other at K.

Then cut off from the leg pattern the marked part till within a quarter of an inch to *h*, then cut it off sloping to *o*.—But mind, when you are cutting the boot leg, that you must not cut off as much from the boot leg between *c* and *i* as the full width of the tongue; because of the draught of the boot leg (commonly called:) that is, it must be in proportion to the quantity taken in by the currier to make the leg elastic; which you may see by the given width on the boot leg, and the apparent one which you can measure.

Then for an exact measurement, it will be, as the given width is to the apparent one, so will the width of the tongue, to the real width to be cut off from the leg to the tongue.

But in practice you will soon be able to guess the quantity; for it must be a little less than the real width of the tongue, for the above reasons:—Otherwise, if you cut off

the boot leg the full width of the tongue or more, you will have the boot leg above the tongue to project out and hang over the tongue, and will remain so as an incurable subject.

But at *c* the tongue only meets the leg, as in the patterns; therefore at that part there is nothing to be cut off the leg.

Now, after you have cut the front of the leg pattern out, put the vamp pattern to it, and see that they fit; and if they do, put the weight on both between K and *o;* then with the graduated parchment boot measure * take the width of the heel from *c* to *c:* but not so close to the edge of *c*, without leaving enough to come under the sewing stitch.

Now take the vamp pattern away, and move the leg pattern with its front towards you in length of the cutting board, so that you may have it with more ease within your reach.—(So much for patterns for exercise.)

Then take the lengths C D, C B the rise and middle of the calf, and the length K *p;* and the width at their respective lengths. With respect to the amall, that is, the space between L and D, you must be governed by the heel, and the fancy of the wearer:—If the wearer should order them full at the small, the heel will be out of the question; but if he should order them to be rather close, you must be guided by the heel. † The leg in the small

* Or, instead of taking the trouble to fold the parchment every time you take the dimensions, you may have a rule made of half the length, just the same as the parchment folded, which you will find more convenient.

† Here I would have the young tradesman observe that when a man puts on a boot, when the foot is about half way down the leg of the boot, the rising part of the foot, the middle between the upper part of the instep and the great toe (or what anatomists call metatarsus) is a collection of bones, 5 in number, and in many feet it protrudes very much:—This part presses against the front of the boot, and the tip of the heel against the hind part, and the line of their position is in an oblique direction, as the line *h i* in fig. 8.—And this part of the foot is nearly three inches lower down in the boot, as at *i*, than the tip of the heel at *h*.—Now *a h*, and *i b* are parallel to each other, and the augles at *a* and *b*, are nearly right angles; and take them as such, we have an easy rule to find the width *i b*, or *a h*, by squaring *i h*, and taking the square of *i a* or *b h*, from it, and the square root of the difference will be the width at *a h*, or *i b*, and it will be found a little more than the width of the heel *c c*.

But when the heel goes down to *b*, the rising part of the foot will be down in the foot of the boot at *c*; therefore at *b*, the boot leg may be cut something less than the heel; as the foot is getting far into the foot of the boot.—As the leg will admit to be cut under the width of the heel at *b*, you can cut the boot sloping from *c* to *b*, to fit the form of the heel which will cause that part of the boot-leg to sit closer round the ancle than if the leg was left wider at *b*.—Though fashion has prevailed over the natural form of the heel of the foot by cutting the boot from the lower part of the heel, to the calf in a curve projecting from the heel, so that the wearer is not able to keep his foot firm in the foot of the boot; because the form of the boot gives room for his heel to slip up and down in the heel of the boot.—So much for fashion.

must be left the width of the heel, for the reasons in the last note; otherwise the boot will not go on or come off with ease.—And likewise, it is evident from the same note, that it is not the real width of the heel, as *c c*, that makes its way in the boot, but the width of *c e*; and in consequence of the oblique direction of the foot entering the boot that the boot-leg is not required wider than the heel; and practice has taught the trade to know it; though I believe that few observe the cause.

Though the heel be the guide for the boot leg in the small, I have known persons to get on boots near 2 inches less than the heel; but they were persons who had no obtruding part on the instab, and who could straighten the foot at the ancle very much.

And I have known others who could hardly move the ancle joint from that of a walking posture! therefore a certain allowance was necessary above the width of the heel.

By observing the foot coming out of the boot, you will see that after the person's foot comes just out of the foot of the boot, the tip of the heel will press against the back part of the boot leg, and force it into a curve, till the heel comes to the full of the calf; then the heel in general is lost in the width.

The front of the boot leg is straight, and the room for the heel must be behind; but it should not be much fuller than the width of the heel only that it should go on and come off with ease.

Some would wish to have always their back strap boots, whether Austrian or jockey, to keep that curve that the heel makes like that of a Wellington boot; but to effect that, they should often be put on the boot trees, and previously damped; then left on till they become perfectly dry.

Now, after these observations concerning the heel and the small of the boot leg, let the boot leg be cut behind, as per fig. 7, in the direction C, L, D, B, *a*, to the real width of the person's leg, and especially at B and *a;* but at D it may be left to the fancy of the times or the wearer; but if ordered to fit the leg at that part, you must cut it to the measure.

Almost all boot legs have the width at the small marked on them; and if not, you may cut a narrow strip of the

bottom of the boot leg, and strain it out well, and it will give the width by measurement.—The real width of the boot leg at the small, and the narrow part of the tongue of the vamp between *c* and *i* are to be added together, and the sum to be compared with the width of the person's heel; and after allowing a certain portion more than the real width of the heel, that is, for what may be taken in by the closing, cut off the difference from the boot leg as from L to D; if the boot leg be wider than the heel, &c.

Now you have cut the leg to the size, mark off the length as at *a*, *a*, fig. 7, quite square; and if it be a whole boot leg, (though very few of them are used now, on the account of the tops) mark off the length of the top from *a*, *a*, to the length it is to be, and cut the remainder off; but let the hind part of the lower part of the top be about a quarter of an inch deeper than the front, because the projection of the calf requires it to appear even in prospect.

Then fold the leg at *a a*, and let the top part come between the boot leg and the cutting board, and let them be even in front; then cut the top part to the leg, but not quite close at the lower part of the top.

But if the top is to be sewed on, let the boot leg be about a quarter to half an inch shorter than the real length is to be, and cut a paper pattern for the top.

First, fold half a sheet of any kind of paper, and put it under the boot leg on the cutting board, and let the folded part be even with the front of the boot leg, and cut it even with the upper part of the boot leg as at *a a*, fig. 7, that you may have both ends to correspond; then fold as much of the top pattern at the same end as the boot leg is too short, and from that fold, mark off the length the top is to be, and cut the remainder off; but as I mentioned above, for the whole boot leg let the lower part of the top pattern behind be deeper than the front, about a quarter of an inch; but if the leg be full, half an inch will not be too much.

Then put the boot leg on the top patterns, and let the upper part of the boot leg meet the folded part of the pattern, and be sure that they are even in front; and then cut the pattern behind to the leg. After you have cut out the tops by the pattern, let there be some fine whity brown

paper pasted on the inside of the top, to prevent the oil from the leg getting into the top; acids and alkali, will imbibe every kind of liquid that may come in contact with them.

The counters or back straps are to be cut as above directed. Then you must fit up the boot legs with side linings, and good middle pieces to be put between the counter or back strap and the leg, and to be so long as to come beyond the heel on each side; for as there is no feather to the inner sole of the boot behind, unless there is a proper substance at the counter to prevent the boot leg to bend short at the heel, the boot leg will soon crack and break off at the heel.

Now to close this article, I shall make one general observation.

Always be careful to place the boot leg as near as you can in the position of the person's leg (for the above reasons) as in the direction 3. *c, i, a,* fig. 7.

The counter, or counter part of the back strap, should be up as high as the bend of the foot at the heel, about two inches and a half, as C L; then from the top of the counter, let there be a gradual sweep or curve from L to *h*, and from *m n o*, that is, the sweep to come from the bend of the heel behind, gradually under the ancle, and then up to the upper part of the instab, nearly to the bend of the foot at that place; but so that the flexor of the foot may have a free movement.

But mind, it should be no lower down, as in the direction of *h x;* there it will have a very awkward appearance, besides its giving too much loose leather round the ancles.

Let the tongue of the vamp be cut so that it may be rather strained in the length, in the closing, than be too full.

When you have obtained that experience, so as to be able to cut the boot at the ancle to any form, at your own will and pleasure; then the other parts will become perfectly easy; and till you have mastered that, be constantly in the habit of cutting pattern to answer the end, to fit the foot and ancle.

Wellington Boots.

Wellington boots were first brought into this country from Germany, in the beginning of the war, about 1794 or 1795. They were then crinkled in the front of the instab; as the present mode of blocking them was, I suppose unknown to the Germans.

That which I believe was the effect of necessity in Germany, became a subject of choice in this country, and improved upon.

The form of the boot at first was rather odious, as the close boot was then in wear; but like many fashions, at first frightful, then pitied, and at last adopted; so with the Wellington boots, and they have now given the fashion to all other kinds of boots made with elastic boot legs.

Wellington boots are in general closed on the inside, but some are closed on the outside; some with black lining, and some without; but those with black linings are the best, they keep up better, and the counter is prevented from slipping under the heel.

Figs. *e.* and 10. represent the front and back of a Wellington boot.—Figs. 11 and 12 represent the blocks, which any part of the country may have from London, Bristol, or from any other city or large town.

When blocking the legs, let them be first wetted in cold water; or if the leather should be rather stiff to work and you think that warm water will render it more pliable, let them be wetted in warm; but mind that the water be not beyond blood heat; otherwise, if it should be, it will scorch the leather, and render it of very little service;—for the fibres of the leather are very similar to the feathers of a quill: when a certain quantity of heat is applied to them they will be scorched, and twisted into various directions: so will will the fibres of the leather feel the heat alike, if above blood heat, though you may not very sensibly discern the process.

Therefore I would have you to be careful never to use hot water if you can avoid it by any means.

When laying the front of the boot-leg on the block, mind that the first two tacks are put on each side of the block at

the angle *b*: and that the leg be well strained across the instab in the direction *a b*.—Then strain the leg down the foot, and up the leg to the shin, with tacks on each side, about an inch or two from each other, and work the folds in well at every tack, until you get it quite smooth as if there had been no fold, but one direct piece of leather.

The back lining and counter must be pasted to the back part of the leg before you block it, and that is to be only strained direct across the block.

When dry, take them off the blocks, and press them flat before you begin to cut them.

In cutting them, you must endeavour to let the seam at the lower part of the leg on each side come within the heel of the boot; and if possible, both the front and the back to be cut straight by a ruler from one end to the other; and for the front and back to be nearly of the same width from the lower part of the calf up to the top; but from the calf to the ancle the width of the back must be decreasing to come within the heel at the bottom; and both in the small to be the width of the heel, will be sufficient; but if the calf be full, then the leg from the ancle to the calf must be left gradually fuller than the heel, that the leg may be of a regular sweep.

If the small of a Wellington boot be left fuller than the heel, it appears, I think, very unsightly.

Indeed many do not like the Wellington boot, because it retains the swell or curve the heel makes in going on; therefore they make choice of the back strap boot though the heel makes the same swell in going on: but in consequence of the boot leg being elastic, it closes to the small of the leg after the boot is on.

Please to mind, in cutting the sides of the front and back part of the boot leg, from the ancle to the bottom, to bring them to the width of the heel, that they may be quite straight; or if they meet at bottom, and at the ancle, and not quite so in the intermediate space, the boot will fit closer about the heel.

With respect to the form of the top of the Wellington or Austrian boot, they depend entirely on the fancy of the time; lately they were of a gradual sweep in the front, and

with a peak behind as in fig. 13; but now they are square in front, and without a peak behind, as in fig. 14.

In right and left half boots the opening at the top of the boot leg ought to be cut from a quarter to half an inch, on the inside of the leg from the middle; because the distance from the middle of the calf to the shin, on the outside of a man's leg, is greater than on the inside from the calf to the shin, and as the shin appears to be the middle of the front of the leg, the front of the boot should be made to correspond: otherwise, if the opening be cut in the middle of the boot leg, it will appear when on the man's leg too much on the outside of the leg.

But in a straight footed boot you cannot avoid it, nor does it appear so much as in a right or left.

The inside of the top of the front should be lined with yellow roan, or any other kind of leather, morocco, &c.

When treeing the boots, (as the trade calls the putting the boots on the boot-trees,) the boot-trees ought to be sorted so that at the calf they may be the real width of the calf of the leg of the person they are for, if they can be got, or very nearly so; the other parts will in general be in proportion.

After you have got the boot properly on the trees, lay down the seams smooth; and if the boot leg has got rather rough in the working, let there be put on it a little paste, and with a damp sponge let the roughness be laid smooth: when dry, let it be well sized, and after it is dried of the size, and if you should not find the leg so smooth as you would wish, let it be sliked with a long stick, and then size it over again; but previous to the second sizing, some will rub it over with candle grease, or mutton suet.

But if you intend to black the boot with shining blacking, which is much in practice, you must avoid the grease; though the grease is not observed after the boot is sized, any more than when the boot legs come from the currier; for that is nearly the process they use to grain the wax leather, and the trade endeavour to recover the lost grain by the same means.

The top leather (if a top boot) is only to be washed with fair water and a clean sponge; and if there be any wrinkles caused in the working, they may be laid smooth with any

clean smooth thing, such as a long stick, a piece of glass, the same as the curriers make use of. Let the top be dry before you take the boot off the trees.

Laced Half Boots.

The measure of a laced half boot is to be taken at the heel of the foot, the same as the boot; but above the ancle you must take the real width of the person's leg, as at *b b;* and at the length, as at *d d*, fig. 15. Here the whole space, from *a a, to d d,* is in one piece, the leg and quarter; and the vamp from *a a* to the toe. The position of the half boot is the same as the boot, in proportion to the length; for example, suppose that *e* in fig. 7, is the length of the half boot, then as the whole lenght *c d* is to half *c e*, so is the distance *a d* from the perpendicular to *e c*, the distance at the length of the half boot, and so for any length. But in practice, there will be no necessity to come to a mathematical proportion; for your daily experience, with attention, will fix the form in the mind sufficiently exact for all purposes, without having recourse to the above method.

I have only laid that down, that you may have an idea of the principles.

The side *a c b d* (fig. 15) is open to be laced up in front, with a piece of thin leather all the way up under the lacing; and both sides are to be lined with a strip of leather about half an inch wide, to strengthen the leg under the lacing.

The leg of the half boot must be cut as near as you can to the real width and form of the person's leg in front and behind.

Laced half boots are not much worn at present: but the fancy of mankind is so uncertain, that the trade do not know how soon they may come in general wear.

Women's Shoes, or Slippers.

The dimensions of the foot are to be taken the same as directed for the men's—If there is to be a wood heel of any height, you must choose the last to have a hollow in the waist, and a spring or pitch in proportion to the height of the heel.

In the next place, you must fit the patterns to the last; observing the same directions as given in the men's.—Some like the quarter long, some short and some middling—Some like the quarter deep behind, and some rather low; therefore, a general rule cannot be observed but you must be directed by the customers. A wood heel should not have the quarter so deep behind as a flat heel.

The quarter of morocco, kid, or any wove upper slipper, from 2 to 2 and a quarter deep behind is sufficient; but to strong leather shoes, or slippers, the quarter ought to be deeper, as the substance of the shoes and the wearer require them.

In general, we find the wearers of Spanish, Morocco, kid, or any kind of wove slippers, wish the length of the front of the vamp of the same length, whether the foot be long or short.

The common wearing length now in use, from the open part of the vamps to the toe is from 2 to 3 inches; therefore the length of the whole vamp has no need to be more than from 3 and a half to 4 inches long. That is, the part of the vamp which joins the quarter to be from an inch, to an inch and a half from the open part of the vamp; for if the joining of the vamp and quarter should be nearer to the ront of the vamp than above directed, the join will be more liable to tear.

From the above length of the vamp, the length of the quarter must be in proportion to the length of the foot. The quarter should be something deeper behind than at the side even to those that require the quarter straight: for if the quarter be cut in a straight line, from the sweep of the front of the vamp, to the end of the heel seam, it would appear in the slipper rather of a rise or swell in the middle than straight; therefore, the quarter should be from an eighth to a quarter of an inch lower at the side than behind, and let it be in a gradual sweep from the top of the heel seam to the front of the vamp, as per fig. 16. So much for the hollow vamps.

But in vamps with peaks in front, (to which some old people are still partial, from being the fashion when they were young,) the quarter comes to the ancle the peak makes with the vamp, as in fig. 17.

The Grecian or sandal form should be cut as per fig. 18. A ruler placed along the upper part of the quarter, and within two inches of the toe, will give the line of direction, as *a b* on the vamp, where to cut the scollop from; the end of the quarter must form one of them, as per fig.

Whatever form or shape fancy may invent in future, they may be deduced from the above modes; and as to all shoes to tie, they are similar to those of the men's; to which refer.

In all women's work, except coarse leather pumps or shoes, you must be careful to cut them even, smooth, and exact, to what you intend them to be, for when they are bound, there is then no remedy.

All Spanish, Morocco, or kid skins are to be cut the same as directed to cut men's upper leathers from the calf skins.

In all wove uppers and linings, the width of the vamp and length of the quarter are to be taken in this length of the piece, whether it be velvet, silk, jean, &c.

The quantity to be turned in by the binder, ought to be pricked off at the heel seam and side seam of the quarter pattern as well as the vamps, if all the lining be cloth, that the binder may not turn in more or less: otherwise you will not be sure to have the real length of a quarter or vamp.

Leather linings in the quarters to be cut close to the patterns; for the binders do not turn in any, but let them meet at the edges.

In all Spanish, Morocco, or any kind of leather that is to be closed at the sides and heel seam and bound with leather, certain allowance is to be given in the vamps and quarters, that you may retain the real length of the quarter and vamp; but if they are to be bound with silk, there will be no need for any allowance, because the binder in this case only lets the edges meet.

Women's half Boots to lace.

This article varies very little from that of the men's as in fig. 15, which look to.

The length of the quarter in the women's, is something longer, that is, *a a* is nearer to the toe.

If the heel be high, the boot leg must have more pitch,

that is, it must be further from a perpendicular, and that in proportion to the height of the heel.—In every other respect you must follow the directions given in the men's, in any kind of leather; and in any kind of wove, with the additional directions in the wove upper slippers.

Women's Cork Shoe.

The cork is to be prepared the same as directed in the man's cork shoe; only instead of thinning it at the edge, you are to leave it nearly of the same substance at the edge as it is in the middle, and square; but that part which is to be towards the heel must be taken thinner.

After you have fitted the cork, proceed the same as directed in the last article, only the rand must be wider in proportion to the thickness of the cork.

When you have sewed the rand, and pared the spare leather off that is above the stich, &c. fill the vacant space that is near the sewing stich, with some skivings of wax, to level the sewing seam with the middle of the inner sole, and wax the inner sole, and sewing seam before you put on the cork.

While the wax is warm put the cork on, and see that it covers the sewing stiches regular all round, and secure it to the last with tacks.

A Turn-over Pump or Shoe.

The fore part of a turn-over whether it be a pump or shoe, is to be made the same as directed under those respective heads. The inner sole of the heel part must be pared full to the edge of the last, and a feather left to it full as wide as the substance of the quarter lining, and rand.

When sewing the rand, let there be a thin slip of leather or cloth sewed in between the rand and the stich, as it prevents the rand when turned over from grinning. After you have sewed the rand, pare the spare leather off that is above the stich, and lay the seam smooth; but if it be any kind of wove stuff, you must pare it off, but lay it down smooth with the hammer or pincers.

Now if it be a spring heel, you must put on the split lift and lift before the sole, and proceed with it as directed in the man's shoe—Some sew the lifts as in the man's shoe, and some secure them with pegs; the latter will answer if secured well.—Let the heel be of a gradual slope from the hind part to the corners, and there diminish next to nothing.

Before the rand is turned over, put some paste between the rand and the heel, and last the rand on the lift, and brace it down firm.

Then set the seat of the rand, and bring the sole over and proceed in the same manner as directed in the top piece of the woman's pump.

But if the heel is to have a top piece instead of a spring sole, the sole is to go on the sewing stitch, and the heel to be made square in front, as well as at the sides, before the rand is brought over.

Closing,

Of upper leather for shoes; it consists of two parts, viz: round and flat seams.

All grain leather is clothed on the flesh side with a round seam, and wax leather is sometimes closed inside with a round seam. But some years back all wax calf leather was closed on the wax side with a flat seam, and all hide leather, whether grain or flax, was closed with a round seam; but now the general mode of closing wax calf leather is on the wax side with a round close, and set as if closed flat. Certainly a round seam is the firmest, if care is taken in the setting of it, that the stitches are not injured by the iron setter.

Round Seam.—As the two quarters of the shoe are first closed together, let the upper part of them be placed even on the closing block under the stirrup, with the edges close to each other. Now with a proper awl* and thread, rise

* The awl should be well polished, and round except at the very point, there it should be rather flat, that it may enter the leather with more ease; let the awl at all times be quite as full as the thread that you are using. For when two threads enter the hole, if the hole be too small it will strain the threads, and free the wax from them, and the wax will be left on each side of the hole, and the threads will be deprived of the wax which should have entered with them into the work to render it firm. Nor should the awl be so full as the two threads, for in that case the thread and wax will not be full enough to fill the hole of the awl with that extension or bulk for it to enter firm into the work.

a hold on each side in proportion to the substance of the leather, but never let it be too full. If it be grain leather, let the awl come out near the grain at the edge on one side, and enter the other edge at the same distance from the grain; but if it be wax leather, let it be split a little more than one half towards the grain, but not so near the grain as that of a grain leather, otherwise the outside seam will be too open.

By splitting the leather, the two rough ends will come in contact with the intervening wax that issues from the threads, and will form a solid firm seam. Let the threads form half knots, commonly called half cast, for, by that, there will be no more thread and wax in the work, and you can draw the stitches as tight as you please without causing the leather to grin or tear: and in all kinds of sewing, you should observe the same method, except that of sewing down the heel of a man's shoe or channel.

The practice of closing the two black sides together cannot be so firm as that of splitting; for the two greasy sides of the leather coming in contact with the intervening wax, cannot adhere, from the natural properties of each; therefore, from the above reasons, splitting is the best method. I do not mean, from the above, that the wax is to issue out from between the seam in that quantity as to be always perceptible;—no,—but that you are to understand that when the threads are felt to come through the work full, there issues from the threads imperceptibly a certain quantity of wax, which enters into the pores of the leather and between the seam, as a defence to the threads in the work from wet and damp. Hence, the threads should be waxed at certain intervals, to supply the constant drain, and keep them nearly in the same state as when they were made. The necessity of paying strict attention to this article causes me the more to impress it on the young mind as a very important part of the work.

Again to the subject:—continue the same hold through the whole heel seam; and if there be any difference in the depth of the quarters, let it remain at the bottom. When you have done with the heel seam, the same threads will serve to close the side seams, if they be of the usual length

at first, about a fathom and a half. If the side seam be square, (though there are but very few of them now,) you must be careful to let the corner of the side of the vamp come up full to the the angle of the side of the quarter, and begin at the bottom where they meet; and when you have closed up to the angle of the quarter, let a hold be taken in the length of the quarter right over the angle, and the thread on the quarter side be put through, and brought parallel with the length of the upper part of the side seam, that the corner of the seam may be square on the quaretr side.

In closing the upper part of the side seam, let the quarter side be strained a little more than the vamp; and when you come to the opening of the vamp, be careful to let the end of the quarter lie straight on the vamp; but if inclined, let it incline down towards the edge of the vamp, that the upper part of the quarter may be strained, as it will last the easier, and fit the closer round the ancle, when on the foot. But if it should incline upwards, it will have the contrary effect, bad lasting, and bad fitting.

If there be a slit in the vamp to let the end of the quarter in, keep the quarter a little strained, and if the slit be not long enough, which is sometimes the case, you are to cut it so.

At the end of the quarter, stab a hole through the vamp, close to the last stitch on the vamp side, and let in the thread which is on the same side; then at the end of the quarter, about the distance of the breadth of the seam on the quarter side, let there be a row of stabbing to the opening of the vamp, and there let both threads be brought inside, and fasten them with a knot or a few stitches up to the opening.

The other side seam to be done the same.

It is immeterial which of the seams you begin with.

Flat Closing

Is looked upon as neater than round.

If the leather be stout, you must pare off about one third of its substance at the edge, from the flesh side: but the inclination to the flesh side to be very little, nearly to a

perpendicular. The directions with respect to the awl, thread, and quarter, to the same as in the last article. Let the whole be in proportion to the substance of the leather, but never very wide. Let the point of the awl come out at the lower part of the paring slope, and enter the other side at the same place, and so continue through the whole closing.

In the last article I mentioned only of square side seams; but the general mode of cutting shoes now, is to have but one straight seam to the opening of the vamp and the end of the quarter to have two rows of stabbing. Be careful, before you begin to stab the end of the quarter, to let it incline rather downward towards the edge of the vamp.

If the leather be thin, it will not bear paring; therefore in taking the hold, the point of the awl must come out at the edge close to the black, and enter the other side the same, and so on through the whole closing.

These are the only kinds of closing used for shoes. With respect to

Boot Closing,

It partakes of both; for in closing the tongues of cordavan boots, the hold in the leg is flat close, and the point of the awl comes out even with the grain or black side; but the hold in the tongue of the vamp is of the round close, and the awl enters in close to the black edge. Calf legs likewise partake of both kinds; the hold in the tongue of the vamp and back strap is round close; but in the leg it is flat close. The beauty of all kinds of closing is, that the hold is equal on each side, and the stitches of the same length and regular. When setting the seams, you must be particular that the iron setter is not above blood heat, otherwise it will burn the seams. In setting the seams you should use a little gum water and colouring, which will make the seams smooth and hard; for without, the warm iron will not slide so well on the seams. But above all, be careful that there is no kind of cutting edge to the iron, but that it be perfectly smooth.

This articles refers to the setting of the seams of shoes as well as to those of boots.

Lining

Is the next article. The back piece should be as deep as the quarter at the heel seam, and cut square at top, about an inch and half wide, and then cut it on both sides from the top downward with a short curve at first, and then with a gradual slope to the ends, letting them be about three quarters of an inch deep: then let the side linings be cut even at the ends, to meet the back piece, and of the same depth with it at the ends. Then lay the vamp and quarter flat on a board, and lay the lining on them from where the end of the back piece joins; then mark it in a gradual inclining slope from the end to the opening of the vamp, and if the vamp have no lap lining, there the lining must be notched, and a sloping bit let up the opening about half an inch long, and from the opening of the vamp let the lining be cut in a gradual slope to the toe, and at the toe to be about half an inch wide. The others are to be cut to this, and to be pared at the edges that are to be sewed if the leather be thick. The sewing of the lining of strong shoes is done with a wax thread and an awl. The thread should be made of three cords of flax, and the awl should be rather flat and crooked at the point. The side lining should not be sewed above two or three stitches on the vamp, beyond the quarter, for it will be the means of breaking the vamp at the joints. Let the awl enter the lining first, as it can bear the fullest part of the awl better than the upper.

In shoes that are made in cities and large towns the lining is sewed with silk, and is the province of the needle; but the same order in the sewing should be observed as in that of the awl.

Women's Plain Heel.

The women's plain heel, whether a pump or a shoe, is to be done in the same manner as directed in making the heel in the man's shoe or pump.

To cut up Hides for Soles.

In the first place let the hide lie flat on the floor or board; then round off the loose belly and shanks, and cut off the neck and the thin part of the shoulders across the width of the whole hide. Then cut the rest of the hide in rangers across the hide, of such width as you may require.

There is no need for the rangers to be wider than the width of the last at the joint added to the width in the small; for in the prime part of the range the soles may be taken heel and toe; that is, in cutting the soles separate, where the heel of one comes the toe of the other will come; hence, there is no need for the range to be so wide as twice the width of the last at the joint.

It has been found by various trials in different modes, that cutting up sole leather in ranges is the simplest, and with the least waste.

The neck part is generally converted into welt leather; the loose belly, and part of the shanks, into inner soles; and the hard shanks into lifts, split-lifts, and piece soles.

I shall conclude this part, with advice to the young cutter, before he commences master.

The experience of cutting and the habit of a shop, will qualify him, and become a motive to act for himself.

But he should mind, that with all the practice in a shop, without the experience of buying, and calculating the value of the different parts of the materials that compose the various articles manufactured in the trade, with due attention, he will still find himself at a loss:—For many a young master, for want of this experience, has spent hundreds of pounds of money, which he never had the trouble to earn; and all the recompence he received from the public was, pity, or poor fellow.

Let the young beginner mind that every kind of leather is very dear, and that the best calf dressed leather at this time, is on an average from 4*d.* to 6*d.* per ounce; wages very high, and house rent and taxes enormous; and if he vends his manufactured articles for what they cost, or less, then the consequence will be very soon felt; but often to his sorrow, he discovers the evil too late.

Never through the avarice of gaining more trade than your neighbour attempt at underselling; because it is a great evil to the trade, and no good to the public, and indeed, ruin to all those whom I have known to engage in the practice.

The cheap seller endeavours to procure the materials to answer his ends, and of course they must be of an inferior quality.—The journeyman's wages he must reduce, or employ very inferior hands; and this is a very great evil to the trade and to the public.

For all of the trade, who have had years of experience, know very well that there is no workman on the seat capable to serve a shop as a regular, smooth hand, without being regularly in the trade from ten to twelve years; and certainly such experience deserves to be rewarded.

But the men that are employed in the cheap work, endeavour to make up in time what they lose in wages, by not putting into the article half the work they ought, that they may bring ther wages on a par with those that work on better work.--This evil does not end with this kind of work; but the men get into a habit which they do not leave off very easily, when employed on better work.—Hence the community suffers as well as the trade.

It is the interest of the community to encourage good work in all trades, and in all things as a public good.—And our trade requires it as much as any; for at best, it is but an imperfect handicraft, and the articles are exposed to more service and more abuse, than any other of a similar nature.

Therefore let the young beginner for his own interest, the general good of the trade, and the good of the community, discourage every species of underselling, and encourage good work, that he may be able to manufacture good articles, and consequently to have a fair price.

In cheap selling, I believe that it is an endeavour between the public and the seller, '*to bite the biter.*'

After having a fair price for your manufactured articles, you will have enough to encounter in the trade. There is no business that has more to do with the various dispositions of mankind than ours. It is never free from their fancy, humour, and passions; and what is worse, many of

those who give the most trouble, never intend to pay for the articles after being possessed of them. The ravages of these swindling thieves (for no better epithet do they deserve) no trade feels more than ours. How hurtful such frequent robberies must be to the industrious tradesman, whose family and himself depend on the produce of that labour which he is so shamefully swindled out of!

Therefore I would advise the young tradesman to pay particular attention to the real value of all the parts that are in the manufactured article, the wages for making, and the reasonable profit on that article as a reward for his judgment and labour, which he is entitled to, to support his situation in society equal to other useful trades.

Always endeavour to procure the best tanned and curried leather that the market produces:—Though the trade has to lament that both are very defective at these times; and by the public these defects are charged to the trade, though no way concerned in them. Never recommend waterproof leather, as it is termed; for it defeats its own ends, if it should really be so; because, if it prevents the water to penetrate in, it will likewise prevent the perspiration of the foot to enter out through the pores of the leather, but will confine the perspirable matter to the foot, which will always be as if in a water-bath.

Therefore it must be very hurtful to those who are in general the most desirous for this leather, the Valetudinarians.

Now we will proceed to that part which is commonly called

Trenching.

Here I would have the young tradesman to be particular, at all times when trenching, to let the length of the quarter and width of the vamp be in the length of the skin; as you may observe in fig. 4. I have only marked out half of a skin, as the other half is to be cut in the same order: for the two vamps must be cut to match, one from each side of the skin directly opposite to the other, otherwise they will be of unequal substance and texture.

If there should be a defect in the opposite side of the skin,

that will prevent you from having them out direct, let that on the defective side be as near as possible, that the two vamps may be similar in substance and appearance, for to wear alike.

The quarters are not of that import which the vamps are; for they are not exposed to the wear the vamps are; they may be taken out of the shanks as at *m*, *n*, and *o*, if the leather be of proper substance and fineness.

The reason that I would have you cut the skin in the manner above directed, is, that all the skins have the fibres running lengthways, from the head to the tail, and down the legs; therefore the strongest way of the skin is in that of its length.

Indeed a skin is not much unlike a piece of cloth; for the fibres of the skin of an animal are like the warp threads in the loom, which constitute the length and strength of a piece of cloth, for the woof (or the thread carried along with the shuttle) is to bind and keep the warp threads in the form the cloth is to be of; and hence it does not constitute its real strength.

Therefore, as a skin is similar to a piece of cloth, the strongest way is in the length, or in the direction of the hair of the animal; but of woolley animals, such as sheep, the skins are not so regular, besides being very porous.

Now, to cut a skin to the best advantage, is to cut one skin into quarters of one length, another to another length: and likewise the same for vamps. But as vamps cannot be cut good and fine beyond the shoulders of the skin, for the shoulders and the neck are in general too coarse, they should be cut into quarters, boy's shoes or men's coarse shoes, which may wear equally as tough as the fine part.

After you have trenched the upper leathers out of the skin, take a pair of pincers and stretch the quarters in the length, otherwise you will not be sure of the length or depth of them; for some kind of leather will stretch a great deal more than others; and unless previously stretched the quarters, when the shoe is lasted, may so stretch, that one quarter may be a quarter of an inch longer than the other, and consequently shallower in proportion.

The vamps are to be strained in length, and fold them in

the middle, the black side together. Cut the vamps and quarters true and smooth to the patterns. Let the vamp lining be cut out of strained sheepskin; or yellow roan, and wide enough to come on the vamp a little beyond the opening of the side seam, and long enough to come below the side lining.

On the vamp lining, write the person's name for whom they are intended, and the length and width the last is to be of, that if they should not fit, you may know the size of them when put in the shop.

Let the strap bites be of any kind of morocco leather; such bits as come off in cutting women's work. The back pieces and side lining, the form of them I have given in the article of CLOSING. And to make the quarters firm and stiff behind, give some bits of upper leather to slip in between the back piece and quarters, as stiffening; which will prevent the quarters breaking at the seat. Tie the whole up together in the vamps and mark the outside vamp so that you may know for whom they are intended.

In fitting the bottom stuff, be careful that the soles, inner soles, top pieces, &c. are not wider than the last, and that neither is stouter nor lighter than the upper leather requires, and the customer's orders: for by being particular in these you will be of benefit to your employer and please the customer.

When the shoes are brought from the maker, you are then to see that the seat of the inner sole and forepart be smooth, and then round the quarters even before they are sent to be bound; do not let the ends of the straps quite meet, but let them be about a quarter of an inch apart, for there will be a better purchase to tie the shoe firm on the foot.

If the shoes be right and left, let the strap of the inside quarter be a trifle longer than the outside, because inside, the ancle of the foot is fuller than the outside ancle; therefore it will force the inside quarter more out when the shoe is on, and will bring the ends of the straps to meet even, otherwise the inside quarter will appear shorter, if rounded even.

After the shoes are bound, punch holes in the straps (if

to tie) about a quarter of an inch from the end of the strap; and lay the binding smooth by hammering of it gently down on the cutting-board. If the binding be leather, color the outside of it, and if the upper leather be waxed grain, and should be any wise rough, put a little soft paste on it, and with a damp sponge lay the grain smooth; but mind that the paste be well rubbed in, that none of it may appear in any degree on the upper leather.

When the upper leather is got pretty dry, let it then be sized * and after it is got nearly dry from sizing, put in the seat piece and label and size it over again; then it will be brought nearly to the same state as when the skins came from the currier.

But if the waxed grain be very close and fine, or if it be dyed on the grain of the skin, sizing only will be sufficient.

SECOND PART.

The art of Cutting Boots and Shoes.

Previous to my entering on this subject, I take it for granted that the young pupil is in possession of every necessary implement, for the work, and that he has acquired a free and easy use of the half-round knife; but if not, I would have him without delay obtain it; for without it, it is impossible to cut with ease, freedom, and dispatch.

In the first place, we will begin with the cutting of

Men's Shoes.

But before you begin to cut, you should learn to take the size of the foot, and the orders relative to the shoe: therefore take the size stick, and let the person's foot lie flat on it, with the fixed upright close to the person's heel,

* Size is made by putting about a handful of white sheep-skin shreds to about a pint of water, and let them simmer near the fire for about 8 or 12 hours, then strain it cool.

and the sliding upright close to the longest toe, and that is in general the great toe: then you have the real length of the foot.—Now, to put the length of the foot down in the order book, you may put the bare length, without any allowance, as some do; or enter it down with the requisite allowance the last is to be of: the latter I would have the young learner adopt; as it will do away any further thought, when you are to look for a last to cut the shoes out.

In the next place, with a graduated piece of parchment, taken from the sizes on the size stick, or graduated in any way so as to be a fixed rule, take the width of the foot over the instab, and over the joints of the toes, and set them down in the order book.

Then take the length and depth of the quarter, the width of the sole at the joints, and the form of the toe the quality of the leather, whether it be wax or grain calf-skin seal or Spanish light, middling or stout, all of which enter in the order book.

In bespoke work there may be many more trivial orders given, which depends on the customer's opinion and fancy.

I mentioned above, that you must make such allowances in the length of the last above that of the foot, which of course I should explain.—If you ever worked on the seat, you must have observed, after a shoe was taken off the last, and left to dry a day or more, that it was not possible without violent efforts to force the same last into the same shoe again.

Because leather is an elastic nature, and it is strained on the last in the making of the shoe, as soon as the last is out, it endeavours to regain its former position; therefore the shoe will get smaller: and independent of that, no person would be able to bear a shoe so tight as the shoe is on the last.

Therefore, experience has taught the trade to make certain allowances according to the form of the toe.—Hence, for sharp toes, three or more sizes; for round toes, from a size and a half to two sizes: but if the toe of the last is very full, and rather thick, from half a size to a size.

These allowances are for a middling size foot; but if the foot is slender, you may not allow quite so much; and if

fuller, you must allow something more. To write the whole or the order in words, would take too much room and time, besides being prolix to look over. To abbreviate these inconveniences, I shall give for an example the following formula:—

Mr. Timothy Trusty, No. *Picadilly,*

7¼ W. G. S. or Span. Shoes or Ps. Qr, 6½. D. 2¼ S. or R. toe. Bot. 3. light or stout R. and L.

Likewise you must pay attention whether the person has a thin or full heel, a projecting or a dented heel behind, and whether a flat or a hollow tread to the foot: these things you must observe, that the last may be similar.

In choosing a last for the customer, endeavour to recollect the person's foot, that the last may be as near alike as you possibly can, and you are to pay every attention to the customer's orders; but though I would have you to be regardful in every respect to the orders of the customer, do not forget the shoemaker; that is, dont let him lead you from the trade, which has often been done to the disappointment of both.

If the last should be a block last, and with it boots have been made to fit the person very well, you are not to trust to it on that account to make shoes on it for the same; because they will be too narrow.

In a boot, the vamp is in one piece from the ancle to the toe; therefore it will give way to the foot with more ease and freedom than the shoe; because the side seams in the shoe will not give way, but will girt the foot too tight if made off the same last.

Therefore as the side seams will not give way for the foot as the vamp of the boot, you must make use of a middling instab leather on the last to obviate that defect. I mention this circumstance, that you may not take it for granted, as the last served in one instance, that it must do in the other; but that you may be on your guard, to pay attention to the directions taken.

Hence it is evident, that the foot of the boot to fit close

about the instab, may be a full size less than the real measure of the person's foot.

Another thing I would wish the young learner to pay attention to, is that the spring of the last is full equal to that of the foot.

You must have observed, when taking the length of the foot, that from the first joint of the great toe to the end of the same, that part of the foot gradually inclines above the flat or level of the size stick, and that the toes bear in general against the sliding upright from an inch, to an inch and a half above the flat or graduated part of the size stick.

Therefore the last should be full as much of the same spring; otherwise there will be more upper leather from the top of the heel seam to the toe, than the length of the foot in the same direction, and consequently the quarters are very liable to sit loose.

Now after you have chosen a last to answer the purpose, you must prepare the patterns* before you can attempt to cut the leather. Let the patterns be of middling stiff paper, which is generally used, as being easier formed and altered.

In the first place cut the quarter to the length and depth and the upper part to the form required, as some require it high behind and low at the side, as sailors usually do; others rather straight from heel seam to the tie; and some high at the side, and low behind; but a projecting heel must have the quarter rather high behind, otherwise it will be inconvenient to keep the shoe on the foot.—These things you must be attentive to, when the orders are given.

The general mode of the form of the quarter at the upper part is rather straight, and the strap at the tie about half an inch wide. The form of the quarter at the side seam, you must leave until you have fitted the vamp pattern to the last, which you must leave so much fuller than the last as you think will be taken up in the sewing, and that is about three eights of an inch, to half an inch. Or, as much as you think is needful from the edge of the last to cover the feather of the inner sole, and to come under the sewing stitch.

* I would not have you to hanker after old patterns from this or that shop; but to form in your own mind such patterns as circumstances may require.

Then fix the quarter pattern on that of the vamp, and lay the last on them, and see that the heel seam part of the quarter is regular with the middle of the heel part of the last; which should have been cut in the first place to answer the heel seam part of the last, for the last is fuller at the low part, than the top of the heel seam, to answer that of the man's heel; therefore the heel seam part of the pattern ought to be cut sloping, to correspond with the heel part of the last. Now that you have the heel part of the quarter and last to answer, look to the vamp at the toe, and let the middle of the vamp come full over the middle of the toe of the last; for so much as the middle of the vamp is above the middle of the last at the toe, so much will the upper leather be shorter than the last in the same direction; therefore it is sufficient for the middle of the vamp, to be a trifle above the middle of the last at the toe, to give a proper strain to the quarters and vamp; likewise leave the vamp so much longer than the last, as was observed before, that it was to be wider.

Now take the last from off the patterns, and let them remain in the same position with a weight on them; and before you cut the form of the quarter at the end of the side seam, whether it be as that in fig. 1st, 2nd, or 3rd, the distance from A to C, and from C to D jointly, must be equal to half the width of the heel, taken to the rising part on the back of the foot; otherwise, the person for whom the shoes are made will not be able to get the quarters up at the heel.

Therefore, in a very short quarter, you must mind that the length from the heel seam to the stabbing at the side seam, and from thence to the middle of the vamp under the tie or strap, be equal to half the length of the heel, as above described. Hence unless there be heel room, the shoe will not get on the foot.

From the above, it is evident, that if the quarter be short the side seam must be low in proportion, that the length from the end of the heel seam, to the stabbing at the side seam, and from thence to the middle of the vamp under the tie, may be equal to half the length of the heel as above: so the distances on both sides are equal to the whole length of the heel.

But if the quarter be long, that is, seven inches or more, then it is beyond the length of most men's heels; the above rule is of no consequence in this case, for here you are to let the side seam be as high as the decent appearance of the shoe will admit that the stabbing at the end of the side seam may clear the joints of the foot, which you can in the form of fig. 1st and 3rd; but in the form of that in fig. 2nd, you cannot avoid it so well.

Now, after you have taken the dimensions as above directed, mark the height of the side seam with the point of an awl, and cut it to one of the above forms, and let there be a sufficient length of the vamp come within the tie: but that depends much on the fancy of the customer, as some will only have it barely within the tie, and others will have it half an inch or more; so in this case you must be guided by the customer.

In all of the above three forms, let the side seam be cut sloping inwards towards the heel, not only if the quarter be long, to avoid the seam from pressing on the joints, but it will give the shoe a free and an easy appearance, and will be much stronger, as the strain is not so great in an oblique as in a direct position, (and by mechanics), it is, as the sine of the obliquity is to radius.

In like manner you must proceed with the patterns for every customer; and for general use, you may cut patterns to every size last, and to every length and depth quarter, and to narrow, middling, and wide vamps, such as you may think, and find in your daily practice, that will become in constant service.

Now as you have the patterns ready, the next thing is to trench by them the upper leathers out of the skin.—But before I proceed, I would wish to draw your attention to an observation or two on straight and crooked lasts.

Right and left lasts are made as near as possible to the form of the feet, and the shoes made on them will fit better than those that are made on straight lasts. The right and left shoes have no loose leather at the inside of the feet when they are on, which is unavoidable in the straight: but there is one great disadvantage in the right and left; if the wearer do not tread even, the shoes must wear much on one side,

as there is no remedy in changing; to which some persons are very partial.

Some people have the soles of their feet very flat, and they find right and left shoes very uncomfortable; therefore in this case a straight last is preferable.—Likewise persons whose feet have been tortured with the gout, rheumatism, or violent corns; for all of them give the preference to straight lasts.

To obviate as much as possible the uneven tread of the wearer of a right and left, let the inside ball of the last at the joints be higher than common, that the inside joint of the foot may be thrown to bear heavy on the inside tread of the shoe.

To make a Man's Pump.

Let the stuff be fitted like that of a shoe, only that the soles must be moulded with the grain side to the last.—Here you are to begin with the sole, and not with the inner sole as in the shoe.

With a tack, fix the sole to the waist of the last, with the grain of the sole inwards; then with the back of the knife, mark the sole across where the length of the heel is to be, and let the knife enter the sole on each side to the side of the last, which will divide the heel part from the fore part.

Pare the sole round the fore part close to the last, and to the form you intend it is to be, if it be to deviate from the shape of the last; and then with a piece of thin horn between the knife and the last, pare the sole plumb to the last.—Then with a shoulder stick, mark off on the sole, a space that will be equal to the thickness of the upper leather and lining, with about an eighth of an inch for paring, and for the upper to lie free and easy at the edge of the sole: and from the mark, skive off to the edge of the sole as much as will reduce it to the substance, the edge is required, Likewise, as a regular guide for the awl in taking hold on the sole, mark off on the sole within the first a space full equal to the substance of the upper leather and lining: and if the sole permit it for substance, cut a very shallow chan-

nel, and hole the sole round the fore part between the two marks; but be careful to let the hold on the sole side be very little wider than the substance of the upper leather and lining, for the same reason as given in the direction for the inner sole; which look to.

Now, fix the upper leather on the last with the lining-side outward, and last the upper-leather the same as in the direction given for the shoe; only you must not put in the whole of the fittings as in that of the shoe; but must leave out an instab-leather, equal to the difference between the substance of the inner-sole and sole, otherwise the pump will be too wide; therefore a block last is not very convenient for to make a pump on. Let the thread be made in proportion to the work, in bigness, but rather full than otherwise: and in sewing, let there be half cast on the upper leather side; and let the stitch be drawn in tight with the hand-leather, and the fingers resting on the side of the knee, you have a greater power to draw in the thread with the awl hand; for according to the law of mechanics, action and re-action are equal: therefore, even in light work, it should be made use of, not only that the work is firmer, but the seams will be closer, and the work will appear better.

When the pump is sewed, lay the stitches smooth, and pare off the spare upper-leather and lining even with the sole, and rub it down smooth.

Then take the last out, and turn the pump, put the last in again and rise up the quarters, let the whole fitting be put in, and with the hammer work out the sole in all directions, and hammer it down even; then scour it out well and run a thin bone between the edge of the sole and the upper leather; and with the same bone or a piece of flat iron, resting flat on the upper leather, close to the edge of the sole and hammer it, or press the upper leather with it close to the last, and then slick the sole well to the last.

Now take out the last, put the inner sole on it, and round the seat of the inner sole the same as that of a man's shoe; which see. The fore part must be rounded just as you think that it will cover the sewing stitch of the sole, for wider than that it will press too much against the upper-leather, and will cause it to project or bulge out too much beyond

the edge of the sole; but still it must be as wide, so as to cover the seam of the sole. Then skive off a feather from the edge of the inner sole, of the same breadth with that of the width of the sewing seam of the sole, so that the whole substance of the inner sole may fill up the vacant space on the sole between the seam on each side. Put a small peg in the inner sole at the toe, and with the point of the knife make a short slit from the peg inward quite through the sole, that the last may slip out with ease when the pump is made.

Now take out the tacks, and paste the fore part of the inner sole, and put the last and inner sole into the fore part of the pump, and be careful that the inner sole is even, and that it covers the sewing seam of the sole regularly on each side; then secure it there by a tack put through the sole at the waist, and get up the quarters, and let them come up so high as that the lower part may be so much below the holed part of the seat of the inner sole, as what is sewed off them in the fore part: if higher, it will cause the quarters to sit loose at the side, when the last is out.

Now put the whole of the fittings in, and put the straps together, but do not strain them, and put a tack in at the heel seam to secure the quarters in their place. With the hammer lay the sole smooth and even, and slick it down well to the inner sole. Then make the heel as directed in that of the shoe. When the heel is finished, take the thin bone and run it gently round the fore part to force the sole from the upper leather, and pare the edge of the sole a little sloping towards the sole; but if it be a very light or thin edge, let it incline towards the upper leather. Be careful not to pare the sole under the sewing stitch of the fore part, but let it be a trifle beyond the stitch, for you will make a better edge, and the pump will wear longer.—Then take the paring horn and put it between the knife and the upper leather, and pare off the ragged or fleshy part of the sole.

Now slick the edge of the sole down to the upper leather; on the sole side; and put a little paste on the edge, and then with a suitable pump stick set the edge well to the upper leather; so that the print of the stick may be visible on the edge of the sole, and pressed close to the upper leather; then wipe the paste clean off, and slick the edge dry; but if you

should feel the stick adhere or stick to the edge of the sole, damp it with your tongue. When you have done with the edge, let the sole be sliked or buffed as custom or order shall direct; and the heel be finished as in that of the shoe. When the last is out, clean the seat of the pegs; let the inner sole be made smooth on the fore part, and the upper leather laid close to the edge.

APPENDIX.

Man's Shoe.

The bottom stuff (as the sole leather, &c. is commonly called) should be previously wetted in a tub or pan of clean water, but not too wet, and left to remain together in a heap for about half an hour, that the water may enter the pores of the leather, to render it mellow and pliable for the work.

You should not overstrain the inner sole on the last; for all leather when overstrained, whether wet or dry, but more so when wet, because it gives more then, will contract or shrink to its former position gradually as it dries when the straining force is removed; therefore the inner sole will become narrower than you intended it should be. Some may say that the inner sole will keep its position after the shoe is sewed, but reason and experience inform us to the contrary: indeed only the interval of time between the rounding of the inner sole and sewing of the same, produces a full proof if the inner sole be too wet.

After you have taken the straining tacks out of the last, round the inner sole just to the edge of the last, unless you have orders to work fuller and narrower than the last. Mark on the inner sole the length of the heel which is in general from two inches and a half to three inches; but there is no certain rule, for it depends on circumstances and the nature of the work. If the customer that the shoes are for, has a long flat seat to his foot, the heel of the shoe must be long, otherwise the shoe will be uneasy to him; and in the wear of the shoe, he will force down the soles nearly even with the top piece at the end of the heel.

With a shoulder stick of certain breadth mark off on the edge of the inner sole for a feather round the fore part, from the mark of the heel on one side to that on the other. The breadth of the feather must always be in proportion to the substance of the work. It must be full as wide as the thickness of the upper leather, lining, welt, and the distance of the stitching stitch from the upper; therefore the stouter these are, the wider must be the feather.

There are some that do not put a feather to a boot or shoe; but boots or shoes so made cannot wear well, for the upper leather will break all round the fore part close to the sole. Because in this case the upper leather will ply short against the hard edge of the inner sole, which will cause the upper leather to break.

But in the case of a sloping feather, that lies on the inside of the upper, full as far as the stitching stitch, it will cause the upper leather to ply in a curve or sweep, which will always prevent the upper from breaking off short.

For example: if you take a twig or wire, and bend either of them backwards and forwards in a curve or sweep, it will not break very easily; but if you will ply either of them short it will break instantly.

Therefore all boots and shoes that are intended for service should not be made without such a feather; especially at these times, when leather is so badly tanned and curried.

The feather must be of a gradual slope from the mark to the edge; but only at the edge it is to be thin. Likewise let there be a feather to the heel part as wide as the substance

of the upper lining, and what will cover the rand when made.*

The next thing to be done, is to hole the inner sole; but as a guide for the young beginner, and if the insole be thick, take a shoulder stick and mark off from the mark that was made for the feather, further on the inner sole, a width equal to the length of the hold, which should be equal to the thickness of the upper leather, lining, and welt; then with the point of the knife cut a shallow channel† perpendicular to the inner sole; in that mark and pare off from that channel sloping to the middle of the inner sole a thin skiving all round the fore part; this will cause a ridge between the channel and the feather of the inner sole, equal in width to the length of the hold.

This hold on the inner sole, being equal to the thickness of the upper leather, lining, and welt, will be sufficient to take up on each side an equal quantity of thread and wax: therefore a wider hold on the inner sole side would render the work too extensive for the threads to have their proper effect, because they could not be drawn in close enough. On the contrary, if the hold be too narrow, it is liable to break out, and will not take in a sufficient quantity of thread and wax to support the work.

Now with an awl, rather crooked, hold the inner sole, and let there be four or five stitches in an inch at least round the fore part; but in the heel part, if what is called a blind rand, let there be but three.—The number of stitches depends much on the quality of the work; that is, whether it be light or heavy. But mind this, if the stitch be too long, the work cannot be firm, and if too short it is liable to break through.

The next thing you have to do is

Lasting.

And let the heel seam of the quarters be fixed exactly even on the middle of the heel part of the last, and fastened

* Though some will give feather to the fore part, they will give none to the heel part; but for the same reason as above, I advise every one to do it to all kinds of work intended for service.—Very light or dress shoes, where the work is required very close, are out of my present consideration.

† But if the inner sole be thin, hole it without.

there, by putting a tack through one of the quarters close to the seam, about an inch from the upper part of the quarter, and another at the bottom, near the edge. Always mind to sink no more of the quarters below the last, than what is necessary under the sewing stitch, except when the upper leather is much too wide in the instab, that you are obliged to sew off a large portion of the fore part of the quarters; then it will be proper to sink the hind part to bring it even; otherwise the quarters will bulge out at the sides, and never fit well.

Let the fittings or instab leathers (if it be not a block last) be fastened to the last with a small tack near the toe; then let the upper leather be drawn gently over the toe of the last, and the crease or middle of the vamp come directly over the middle part of the toe of the last, and with the pincers strain it moderately over the toe, and secure it on the sole side with a tack.

Then at a certain distance from the toe, with the pincers, strain the upper leather tight in the direction of the line A B. as in fig. 1st; that is, from the upper end of the quarter at the heel seam, in a direct line along the end of the side seam to the side of the toe; and the same on the other side.

Be careful that they are even on each side, for they are the two principal lasting tacks. If they are not carefully lasted, the upper leather never will be smooth; therefore too great care cannot be taken of them, that they may be equally strained at the same distance from the toe in the above direction.*

The next two tacks are those at the joints, as at c.: they last the upper tight over the instab and joints. Let the upper leather be lasted direct downward; but if it should incline, let it incline forward.

Let the ends of the side seams be always at the same distance from the toe, and the same depth from the edge of the last. Never last the quarter beyond the end of the side seam, towards the heel seam, except the quarter be too

* I have known very good old hands in the trade in every respect but that of lasting; and in that they seemed to be like young beginners

shallow to come under the sewing stitch: and in that case, it is better to take an instab leather out of the fittings, and endeavour to shove it in after the shew is sewed.—But if you do take a leather out, you must last the upper over again, otherwise the upper leather will not be smooth.

The next two tacks are those between the joints and the lasting tacks, as in fig. 1. between B and C.—The next thing is to last the toe; that is, you must take out the toe and the two lasting tacks, and turn up the upper over the toe, and take out the tack from the instab leathers, or fittings.—Then draw the side linings close together, and let a tack be put in each, and let the ends be cut to meet, and with a small end brace them together.—Then cut the lining on each side from the joint sloping towards the toe: skive the edges, and put a little paste slightly over them; then draw the upper leather over the toe, and see that the lining keeps its place.

After you have secured the upper leather over the toe, let the two lasting tacks be properly strained in the direction as above.

Then last the toe, by putting a tack or two between the lasting tacks and the toe tack, on each side, as in fig. 1. between B and the toe.

Then brace the toe, by taking the end of a wax thread, and with an awl let it enter the inner sole below the lasting tack, and let it come out in the upper close to the tack that is between C and B, and let it come round the toe, and its purchase on the tack that is on the opposite. But take out the tacks from one lasting tack to the other round the toe, that is from B to B round the toe, before you fasten the thread; and strain the upper leather back against the thread, till you bring the thread and upper to lie just on the outer holes of the inner sole; and let the upper leather be smooth and free from plaits or wrinkles round the toe.

Though some do not brace the toe, but take the tacks out as they sew; but I advise the former mode.

Now after you have lasted the upper, put a little paste on it, and with a damp sponge let the paste be well rubbed over the upper, to keep the grain smooth in the work if it be wax leather.

In the next place prepare the welt, by skiving it to the substance the work requires, and let one side be thinned to receive the thread, but in proportion to the work and thread; for to a strong and serviceable shoe the welt should not be reduced too thin.

The next article is a sewing thread; and the sewing thread should be made of the best green hemp, and well waxed, (as I have directed in the early part of this work,) and its size full in proportion to the work; for it is better for the thread to be, of the two, two full than two small, (unless it be a dress shoe, for that is more for sight than wear) for if there be hardly any thread, there can't be much wax; and if there be not sufficient thread and wax in proportion to the work, the shoe can never be firm.

In Sewing,

Begin with the back part of the shoe, for the rand of the heel requires the best part of the thread; and let there be a full cast to every stich on the quarter side, and let not the stitch be drawn too tight on the quarter, that the stitch may lie close and smooth, in sewing down the heel, without causing the quarter to grin or tear. And if you should neglect either or both of them, you will find great difficulty to make the rand; besides being liable to tear the quarters.

When you have sewed round the heel, the first stitch in the fore part must come over the end of the welt, and with the thin end of the hammer let the welt be laid close to the upper that lies even with the outer holes of the inner sole, and so you must continue to do for about every eight or ten stitches, while you are sewing the fore part.

Likewise you must be careful to wax the thread so often as that it may be kept nearly in the same state as it was when you began with it.

In drawing the threads in sewing, you will find that on one side the end of the thread in hand will come out at the hole nearer to you than that part which goes in at the same side; and on the other side, the end in hand must come out at the hole further from you than that part which goes in on that side: therefore the stitch on the latter side will have

the appearance of a half cast, which should always be on the welt side, as it will prevent the welt from grinning.

The sewing awl should be curvilinear, or have a bend similar to that which is called pump-blade, because in consequence of the curve or bend, you can rise the hold in the upper leather and welt in the exact point you wish to; but with a straight awl it will be out of your power, for the straight awl will rise the hold far beyond the proper place: therefore the parts will never be brought close enough together.

After you have done sewing the welt, lay with the hammer the stitch smooth, and pare off the spare leather of the upper and lining close to the welt; and if that part of the welt above the stitch should not be even, pare it so, but not too near the stitch.

The heel part must not be pared, but laid flat with the hammer; and rise the stitch with some straight awl; and with a shoulder stick set the stitch smooth on the welt side of the fore part.

Then lay the best split-lift on the heel part with some tacks, and let it be about a quarter of an inch beyond the outside of the stitch, and let the ends come quite flush with the ends of the welt. With the edge of the hammer settle the split-lift, and instead of the tacks put in some pegs; then pare and rasp it even.—Fill the middle of the fore part between the sewing, with skivings of leather, and some paste, for to level the middle with the prominent part of the sewing seam; otherwise the sole will not be even, but in pits and ridges, which will not work nor wear well.

Now let the sole be wetted, so as to be pliant and mellow, and hammer it over slightly, and lay it on the in-sole, after every thing is done as above directed, and a little paste put between.

Secure the sole in the waist with a tack, about two inches below the joints; then draw it over the toe, and secure it with a tack about two inches from the toe, and with two tacks fasten it at the heel part.—Then settle the sole well, and pare it round the fore part at a certain distance from the sewing stitch on the welt side: which distance depends on the substance of the shoe, and it must correspond with

the width of the feather of the inner sole; for, if the sole be left wider than the feather of the inner sole, the fore part will project or shelve out frightfully beyond the upper leather; and if too much under the feather, it will cover the welt and bury the work, and the welt will be too close. But in rounding the sole to the welt, you must be careful to leave enough of the sole to pare off in making the fore part after stitching; therefore there must be enough left to clear the sewing stitch, to receive the stitching stitch, and to make the fore part.

Now you have rounded the sole, take the thin end of the long stick, or thin bone, and force down the welt to the sole from the upper, all round the fore part, as smooth as you can; then, with a thin bone, or iron, work out the welt from the upper towards the edge as much as you can, that no loose welt may remain between the stitching stitch and the upper leather.—Then pare off the spare welt that is beyond the sole, and with the end of a thin bone, or iron, press the welt to the sole all round the fore part, at that distance from the upper leather as to clear the sewing stitch, that it may make a groove kind of an impression on the welt where you intend to stitch.

Before you begin to stitch, put on the piece sole, as it will prevent the split-lift to move from its place; but in putting it on, let there be a little paste put between, and let it lap over the end of the sole, for it is much better than to let them meet plumb. In the latter case it is liable to shrink and leave a vacancy between, to the injury of the shoe, and unsightliness of the work.

The stitching thread must be in bigness proportionable to the work; but it is better to be full than too small, for the work will look better and wear firmer that when too small.—Let it be but slightly twisted, that the stitch may lie flat on the welt, though the work is always better for the thread being well twisted, if it has been well waxed before; but if there are a great number of stitches put in the welt, this makes up for the want of hard twisting.—Make two threads of about a fathom and a half long, which will serve for a middle-sized shoe.

Always make use of a square, or what is commonly

called French awl blade, flatter in the depth than in the width.

Let the first hole be made through the split-lift and sole at the end of the welt, that the first stitch may come over the welt. In stitching, mind that the thread in hand on the welt side is nearer to you than that which goes on the welt, that you may always have the stitch fair and regular.

The number of stitches to an inch on the welt depends on the substance of the shoe: in a middling shoe, about twelve stitches to an inch will be sufficient; and more or less as the shoe is light or heavy: too many will tear the work, and the contrary will not hold it together.—Wax the threads as often as you see they require it, that they may be kept nearly in the same state as they were when you began with them.—Cut the channel in the sole inwards, by beginning on the right side, when the sole is up, and the toe towards you, and as near the edge as the groove on the welt is from the edge.* After you have stiched, close up the channel, and with the hammer lay the sole smooth, and scour it out, and slick it well with the long stick; then with a piece of sole leather thinned to the edge, run it behind the stitch and the upper, which will lay the stitch smooth. Then take the thin bone or iron, and run it along the welt on the outside of the stitch, to rise the stitch up smooth and regular. Then with the point of the knife take of the welt from the stitch at a certain distance from the stitch; that is, for a stout shoe at the distance of full the height of the stitch; of a middling, not quite so high as the stitch; and for a light shoe nearly close to the stitch.† Then pare the sole and welt round the fore part plumb or square to the edge of the welt, and with the rasp lay smooth the paring of the knife, and with a bit of glass lay smooth the roughness of the rasp. Then lay a little soft paste over the stitches round the fore part, and with an

* In stitching, mind to clear the sewing stitch, that the awl does not enter into any part of the sewing.

†How ridiculous it is to see a strong labouring man's shoe with a welt light enough for a dress shoe! and in such case, the stiches will be out in rags at the edge of the welt, before the sole is half worn out. The welt in front of the stitch should be full or close as the shoe is stout or light.

iron jigger set the welt and stitches. You should have by you, three kinds of jiggers, full, middling and light.—But in setting the welt with gum water, be careful that the iron is not above blood heat; for, if it should, and that it should bear on the upper leather, it will certainly burn the leather, for no upper leather can bear heat above blood heat, without being scorched.

Likewise, be careful that that part of the iron which is between the stitch and the upper leather does not bear on the upper leather; for, if it should, the friction of the iron against the upper leather will cause it to tear as if it had been cut with an edge tool.—Now after you have set the stitches, take the shoulder stick or iron, and set the fore part all round so hard, that the impression may be visible at the edge of the sole, without any future false means; but previously let the edge of the sole and welt be damped with a little thin gum water or paste; and if it should get dry, moisten it with your tongue now and then.

The next part is to make the

Heel.

In the first place, let the heel stuff be perfectly dry and well hammered, so that the lifts, &c. may be hard and dry. Level the sole and piece-sole, and rasp them; put a little paste on the part where the split-lift is to be placed. Fix the split-lift with a few tacks; pare it round the heel close to the sole: then in room of the tacks put in as many pegs, and with the hammer lay it smooth, and level it with the knife, and rasp the grain off, and put some paste over the split-lift and sole, and fix on the lift, and proceed in the same manner as you did with the split-lift, &c.

The common height of the heels of men's shoes now, is only a top piece above a split-lift: but whether the lifts be more or less, you must be careful that the heel is quite level before the top piece is put on, that no part of the top piece in substance is pared off. After you have proceeded with the lifts as above directed, fix the top piece on with two or three tacks, and with the hammer settle it smooth,—pare it round to the size and form you intend the heel should be;

but be careful that the heel is not made too narrow for the width of the shoe. Cut the channel as near to the edge of the top piece as you think the point of the heel awl will come out with ease.

Then hole the heel all round, with the awl resting on every link stitch of the rand, except the first and last, which must be before and after the stitch. In holing, the lifts will be moved out of their places, therefore you must settle them down with the hammer before you begin to sew.

The heel thread must be full, well waxed, and well twisted. In sewing, be careful that in drawing the link stitch close, you do not tear the quarters. When the heel is sewed, close the channel, and settle the heel well down, and with the thin end of the long stick, or bone, rub down smooth the stitches of the rand.

Then pare off about a third of the lower side of the seat lift, and with the corner of the hammer turn up the seat lift over the stitch; pare the upper part of the seat lift as near the stitch as you can, so as to leave enough to cover the stitch; then put a little paste between the seat lift and the stitch, and with the hammer lay the seat lift close to the quarters of the shoe; then put some paste on it, and with the back file, file it hard on the stitch and close to the quarters; but be careful that the back file does not fret the quarters. Pare the seat lift and sole, at the side, as close to the quarters as you intend the width of the rand to be; and that must be wide, middling or close, as the work is strong, middling, or light; then with the rand bone, or iron, set the rand with a little paste under the setter. Then pare the top piece to the size and form you intend it to be; but that you should always do before the heel is sewed, for now you are confined to the channel.

Now, as you have got the top piece formed, and the rand set, let the heel be pared plumb or square to answer the rand and top piece, and with the rasp take off the roughness of the paring, and with a piece of glass smooth that of the rasp; then put a little paste over the heel, and with a scouring stone rub it well all round; and when done, wipe the paste clean off the heel, and with a rubber slick it well. If you have in the work flattened the rand, set it again, but not with paste, but with a little gum water.

In the next place, take the tacks out of the top piece; but previous to the paring of the heel, you should have put four or five pegs in front of the heel, and fill the holes with pegs, and with the hammer lay the top piece even,—scour it out with a little paste, after you have rasped and scraped it smooth, and slick the edges of the top piece smooth.

Then, with a pointed knife cut the front of the top piece of a curve form, but hardly differing the eighth of an inch from that of a straight line; likewise cut the lifts in a perpendicular line with the front of the top piece; but be careful that the knife does not enter the sole.—Now with the end of the long stick slick the front of the heel, and the adjoining sole, and cut down plumb or square the corners of the heel; but always mind that they do come forward on the sole about an eighth of an inch beyond the welt;—the shoe will not only appear better, but will be firmer.

Now clean the shoe well from all dirt, and slick the bottom well, even if it is to be buffed after; prick the stitches of the fore part, and set them, and likewise the rand. Then colour the heel and fore part, and when dry, rub them hard with a piece of flannel, and slick them well, and with a black ball, ball the heel and fore part well; then with a thumb leather spread it even, and with a warm stone rubber set the ball on the heel, and with a warm iron set the rand and fore part. But observe, the balling part may be left till the shoe is taken off the last, which is generally done by many, when they have light work, to prevent mauling the stitch and the ball in taking the shoe off the last. When the shoe is taken off the last, bruise the points of the pegs inside of the heel; and with the crooked knife cut them off, and clean out the seat of the heel.

Now I shall close with wishing the young tradesman well, and recommend to his perusal, the narrative of the Author's Life; which may be had at most Booksellers' Shops.

RECIPES.

For Liquid Blacking.

Take five pounds of Ivory Black, one pound of Treacle, half a pint of Sweet Oil, three-penny worth of Prussian Blue, one pint of Vinegar, and a pint and a half of water; to which add a table spoonful of Sulphuric Acid.

Russian Sable Grease.

Take a quarter of an ounce of Spermaceti Powder, half an ounce of Tallow, half an ounce of Venice Turpentine, half an ounce of Linseed Oil, one pound of Treacle, one pound and a half of Ivory Black, three ounces of Sulphuric Acid, and one pint of cold water; stir them all up well together.

This unparrelled composition has been proved by persons of the first respectability in the leather trade, who acknowledge its many singular virtues; not only for producing a brilliant jet black lustre, but in preserving the leather free from all cracks.

N. B. This Recipe is from the best in London and Paris.

For Staining Leather Pink or Red.

Take two ounces of Brazil wood, a quarter of an ounce of Cochineal, and a few drops of Spirits of wine. The Brazil wood must be boiled in three pints of water, till reduced to one pint, and the Cochineal dissolved in a little warm water, then add the Spirits of Wine.

For Blue.

Take two ounces of Archiel, boil it in three quarts of Water, for three-quarters of an hour, then add a small cupful of Urine, and let it boil a little. This will make a fine Blue.

For Yellow.

Two ounces of French Berries, boil them half an hour in a quart of water, then add four drops of double rectified Spirits of Wine, and let them boil together.

For Green.

Make the Yellow as above, turn it with a few drops of Orpiment. This will make a fine Green.

For Purple.

Take a pint of Logwood liquor, half an ounce of Archiel, and a few drops of Hartshorn; boil them for half an hour.

To finish Off all Colours.

Take the whites of three eggs, beat them to a gloss, half an ounce of gum Arabic dissolved, a half-penny-worth of Sal Ammoniac; beat them all together. This will be enough for twelve skins.

To make Cordavan-leather Boots and Shoes Waterproof.

Take two ounces of Frankincense, dissolve it in two ounces of Olive oil, then add six ounces of Spirits of Turpentine; sponge the Boots or Shoes with this composition when mixed together, every other day for a week, on the outside, and let them remain until they are dry; then you may rest assured that no water will penetrate them, even if they were kept in water for a month.

Cleaning a White Boot Top.

Half an ounce of the Muriate of Tin, half an ounce of the Salts of Sorrel, half an ounce of Oxalic Acid, two ounces of cream of Tartar, two ounces of white pumice stone powder; mix the whole in one quart of hot water. It must be laid on with a hard brush on the boot top.

The above Receipt challenges the best in Europe for superiority, in cleaning white boot tops, although ever so dirty or stained.

For taking Copperas and Grease Stains out of Boot Tops.

Half an ounce of Dragons' Blood, half an ounce of Oxalic Acid, half an ounce of Burnt Alum, one drachm of putty powder: put on with a sponge.

Size for Cleaning Cordavan Leather.

Two-penny worth of cheap logwood, two ounces of Glue, half an ounce of Gum Dragon, half a pint of Stale Beer, one drachm of Isinglass: boil them all until your Isinglass is dissolved.

To make Calf Skin, Neats Leather, or Kip Leather Boots and Shoes, Waterproof.

To prevent any wet or damp whatsoever from penetrating, take one pint of Drying Oil, two ounces Yellow Wax, two ounces of Turpentine, half an ounce of Burgundy Pitch; boil it carefully over a slow fire; lay the mixture, while hot, over the boots and shoes, with a sponge or soft brush, and when they are dry,

lay it over again, until the leather becomes saturated, that is, when they will hold no more; let them then be put away, and not be worn until they are perfectly dry and elastic; they will afterwards not only be found impenetrable to wet, but soft and pliable, and also of much longer duration.

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